

REMARKS

Claims 9, 11 and 14 stand objected to. The word "and" preceding "alkyl" has been deleted.

Claims 8 and 18 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for the reasons recited in the outstanding Action. claim 8 has been amended to clarify the intended substituent limitation language. Claim 18 has been canceled and claims 19 and 20 have been amended to provide consistent reference to an emitting "dopant" rather than a "compound".

Claims 1, 3, 7, 9, 13-15, 18, 20, 22, 24 and 25 stand rejected under 35 U.S.C. 102(e) as being anticipated by Fukuoka et al. (US 6,713,192).
According to the Examiner:

Fukuoka et al. discloses organic electroluminescence devices comprising a mixed organic light emitting medium comprising at least (A) one electron transporting material and (B) an anthracene derivative (see abstract). The mixed region reads upon the instant "light emitting layer containing a light emitting dopant and a host". The amount of component (A) to component (B) is 1:9 to 9:1 (see col. 38, lines 10-14). Specifically shown anthracene derivative EM3 (see col. 110) reads upon the instant compound. A phenyl group is attached to the anthracene at the 10 position that is meta-substituted with another phenyl group (per instant claims 13-15). A further anthracene group with a phenyl group attached is on the main anthracene group at the 9 position. The further anthracene group's middle ring) bonded to the main anthracene group reads upon a biphenyl that is further substituted per instant claim 3 and EM3 is considered to be 4-biphenyl per instant claim 7 (see col. 11). Per instant claim 9, the biphenyl is substituted with an aryl group (see compound EM3). The mixed light emitting region further comprises a fluorescent compound per instant claim 18 (see col. 38, lines 14-19). Preferred fluorescent compounds include quinacridones and coumarins, which are well known as green emitting compounds per instant claim 20 (see col. 37, lines 23-64). Per instant claim 22, component (A) may be deemed a co-host and fluorescent compound (C) may be deemed the dopant, since the amount of (A):(B) may be 50/50 (see col. 38, lines 10-14). The preferred electron transporting component is Alq per instant claims 24 and 25 (see Example 14, Table 1-1, col. 47).

Applicants do not believe that the Fukuoka reference anticipates the claimed invention. Compound EM3 of the reference is not a monoanthracene compound as delineated in claim 1; it is a bianthracene. It does not have a R₉ biphenyl on one side and a R₁₀ phenyl on the other side of an anthracene ring. None of the other formulas suggested appear to be asymmetric with different R₉ and R₁₀ groups with a phenyl ring on one side and a biphenyl with no fused aliphatic carbon ring on the other. All of the monoanthracenes are symmetric. See the data at pages 33-36 of the specification that demonstrates the results of having the claimed R₉ and R₁₀ requirements. Comp-3 appears to correspond to EM7 and Comp-4 to EM4. It is clear that the types of compounds specified in Fukuoka do not exhibit an advantageous combination of stability, efficiency and yield.

Claims 1-19, 26 and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Funahashi et al. (WO 2003/087023) (hereinafter (WO '023)). According to the Examiner,

WO '023 teaches anthracene compounds that are asymmetric for use in an organic electroluminescent element. The anthracene compound may be used in a light emitting layer in mixture with another compound (see abstract). The anthracene compound is of the formula "A-AR-B" (see page 3) wherein A is selected from the groups labeled (1) to (11) shown on page 4. Substituted phenyl groups are shown as numbers (1), (2) and (3). On the other side of the anthracene skeleton, B may be selected from a 5-60 carbon aryl group, which encompasses a biphenyl group (see English abstract by Derwent for reference). The teaching to use the anthracene compound in combination with another compound in mixture in a layer reads upon the requirement of a dopant and a host per instant claim 1.

It is noted that the Funahashi patent publication is essentially in the Japanese language and that the Examiner has not provided any indication that any specific anthracene derivative disclosed therein is within the scope of the present claims. It should be appreciated that the Abstract and general disclosures of the reference appear to be directed at a broad array of "asymmetric" anthracene compounds in an OLED device. Although the narrowly limited compounds useful in the present invention are within the broad teachings of the reference, so are the relatively ineffective compounds of the comparative compounds of the


present invention. Thus, referring to page 33 of the specification, it appears that Comp-1 is an asymmetric anthracene compound. Further, it appears that Comp-3 is an asymmetric anthracene in which B is a naphthylanthracene group and A is a naphthyl group and Comp-5 is an asymmetric anthracene in which B is a naphthylanthracene group and A is a terphenyl group. The data of the subsequent Tables 1b and 2b demonstrates the unexpected results obtained with the selection of the present invention from with the broad reach of the reference.

It is further submitted that the Funahashi reference is not prior art under the patent statute. The enclosed Declaration under rule 131 establishes that the present invention was made prior to the publication date of the Funahashi reference. It is further submitted that the Funahashi reference, having been published in the Japanese language (even in the PCT version), is not citable as prior art under 35 USC 103 through 35 USC 102(e).

In view of the foregoing, the Funahashi reference should either be withdrawn as not being effective prior art or should be deemed overcome by the evidentiary showing for the selective present invention over the broad disclosure of the reference.

The Examiner is respectfully requested to reconsider and withdraw the outstanding rejection and to pass the subject application to Allowance.

Respectfully submitted,



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Encl: Declaration Under Rule 131